IN THE CLAIMS:

Claims 1-19 (Cancelled).

20. (New) A method of manufacturing a medical device from a workpiece, comprising:

generating a beam of radiation from a radiation source; and

directing the radiation beam onto the workpiece by scanning the radiation beam so that a prescribed pattern is cut in the workpiece.

21. (New) The method of claim 20 wherein the radiation beam is scanned within a planar scan area throughout which the beam is incident at a 90° angle.

22. (New) The method of claim 20 wherein the workpiece is a tubular workpiece.

23. (New) The method of claim 21 wherein the workpiece is a tubular workpiece.

24. (New) The method of claim 23 wherein the planar scan area is perpendicular to a longitudinal axis of the tubular workpiece.

25. (New) The method of claim 22 further comprising the step of redirecting the radiation beam so that it is scanned about a circumference of the tubular workpiece.

26. (New) The method of claim 20 wherein the directing step includes the step scanning the radiation beam with a scanning galvanometer.

27. (New) The method of claim 26 wherein the scanning galvanometer comprises a first pivotable scanning mirror pivotable about a first axis and a second pivotable scanning mirror pivotable about a second axis, wherein the first and second axes are orthogonal to one another.

28. (New) The method of claim 20 further comprising the step of positioning at least one optical element along an optical path between the radiation source and the workpiece.

29. (New) The method of claim 26 further comprising the step of positioning at least one optical element along an optical path between the scanning galvanometer and the workpiece.

30. (New) The method of claim 28 wherein the optical element comprises a flat field telecentric lens.

31. (New) The method of claim 29 wherein the optical element comprises a flat field telecentric lens.

32. (New) The method of claim 29 wherein the optical element comprises a conical mirror.

33. (New) The method of claim 29 wherein the optical element comprises an elliptical mirror.

34. (New) The method of claim 32 wherein the workpiece is a tubular workpiece and the conical mirror has an apex with an aperture therethrough that is traversed by a longitudinal axis of the tubular workpiece.

35. (New) The method of claim 20 wherein the directing step includes the step of focusing the beam in a flat focal plane prior to impinging on the workpiece.

36. (New) The method of claim 20 wherein the workpiece comprises a biocompatible material.

37. (New) The method of claim 36 wherein said biocompatible material is stainless steel.

38. (New) The method of claim 20 wherein the medical device is a stent.

39. (New) The method of claim 20 wherein the medical device is a catheter.

40. (New) The method of claim 22 wherein the tubular workpiece is translated along its longitudinal axis during the step of directing the radiation beam.

41. (New) The method of claim 22 wherein the tubular workpiece is rotated about its longitudinal axis during the step of directing the radiation beam.

42. (New) The method of claim 29 wherein the tubular workpiece is rotated about its longitudinal axis during the step of directing the radiation beam.

43. (New) The method of claim 42 wherein the optical element comprises a linear scanning flat field telecentric lens.

44. (New) The method of claim 20 wherein the radiation beam is a laser beam.

45. (New) The method of claim 44 wherein the laser beam is a pulsed laser beam.

46. (New) The method of claim 20 wherein the workpiece is cut by scanning the radiation over a common path a plurality of times, wherein each subsequent scan over the common path removes additional material from the workpiece.

47. (New) The method of claim 22 wherein the prescribed pattern defines an opening in the tubular workpiece.